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CHAING CHEN  
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EXAMINER

PATEL, NIRAV B

ART UNIT	PAPER NUMBER
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2135

MAIL DATE	DELIVERY MODE
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07/26/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/082,982

Applicant(s)

CHEN ET AL.

Examiner

Nirav Patel

Art Unit

2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2006 (Amendment).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 21-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's amendment filed on December 08, 2006 has been entered. Claims 21-39 are pending. Claims 21, 28-31, 37 and 39 are also amended by the applicant.

### Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 21, 24-27, 28, 31 and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueshima (US Patent No. 6,731,731) in view of Yu et al (US Patent No. 6,067,621) in view of Tabuki (US Patent No. 5,841,970) and in view of Le et al (US Pub. No. 2003/0105962).

As per claim 21, Ueshima teaches:

registering user's public, private, and the authentication client device identities with an authentication authority [Fig. 1, col. 12 lines 34-35, col. 10 lines 12-20].

Ueshima teaches the portable mobile communication terminal is used to generate one time password [col. 4 lines 1-6, col. 6 lines 8-9, col. 8 lines 27-32] and a plurality of authentication system units is presented on the network [col. 11 lines 39-42]. The

Art Unit: 2135

authentication system unit provides the authentication based on the one-time password [col. 12 lines 42-44, col. 15 lines 17-21, 31-36, Fig. 1].

Ueshima doesn't expressively mention conducting synchronization between the authentication authority and user's authentication client device.

However, Yu teaches generating the one-time password [Fig. 2, 4] and conducting synchronization between the authentication authority and user's authentication client device [col. 5 lines 14-17, Fig. 1, col. 8 lines 32-35].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Yu with Ueshima, since one would have been motivated to provide an improved user authentication system [Yu, col. 3 lines 15-16].

Ueshima and Yu teach the one-time password [Ueshima, col.8 lines 23-24, Yu Fig. 2].

Ueshima teaches providing the Web services to the user based on the result of authentication/verification process [col. 3 lines 51-53]. The authentication unit verifies the one-time password [Fig. 1, col. 12 lines 42-44, col. 8 lines 23-24].

Tabuki teaches:

submitting the authentication data to a business application server; composing an user identity verification request message by an authentication handler which is a plug in software installed on the business application server; forwarding the identity verification request message to the authentication authority, verifying the user's identity by the authentication authority by checking the identity verification request message; composing identity verification response message and sending the authentication handler the response message by the authentication authority; receiving the identity

Art Unit: 2135

verification response message by the authentication handler; informing the business application server about the verification status by the authentication handler, granting permission for the user to access protected resources by the business application server upon a positive user identity verification [Fig. 1, 2, col. 4 lines 10-37, col. 5 lines 13-17, col. 2 lines 37-44].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Tabuki with Ueshima and Yu, since one would have been motivated to alleviate the burden on the application server [Tabuki, col. 2 lines 14-15].

Tabuki teaches forwarding the request to the authentication/verification server [Fig. 1, 2]. Tabuki doesn't expressively mention an authentication gateway authority.

However, Le teaches submitting the identity verification request message to an authentication gateway authority and forwarding the identity verification request message from the gateway authority to the authentication authority [Fig. 1, 3, paragraph 0035, paragraph 0040].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Le with Ueshima, Yu and Tabuki, since one would have been motivated to provide improved user authentication/verification system [Yu, col. 3 lines 14-15].

As per claim 24, the rejection of claim 21 is incorporated and Le teaches:

Art Unit: 2135

the gateway authority (i.e. proxy) and the authentication authority to be separated and placed in the Internet accessible environment to achieve a scalable and distributable solution [Fig. 1].

As per claim 25, the rejection of claim 21 is incorporated and Yu teaches:

the authentication authority and the authentication client device contain means to generate one-time and non-predictable identity codes independently for user identity authentication or verification [Fig. 1, 2, col. 8 lines 32-35].

As per claim 26, the rejection of claim 21 is incorporated and Ueshima teaches:

user public identity, authentication client device identity, and user private identity [Fig. 1, col. 15 line 10, col. 10 lines 12-13].

Yu teaches:

the synchronization is conducted by executing a set of math function comprising hash, power and modular math operators with the input of information [Fig. 2, 3, 6, col. 10 lines 7-18, col. 8 lines 49-51].

As per claim 27, the rejection of claim 21 is incorporated and Yu teaches:

the authentication authority and the authentication client device contain means to generate confirmation codes to verify the success of the synchronization [col. 5 lines 14-37, col. 8 lines 49-57].

Art Unit: 2135

As per claim 31, it is a system claim corresponds to method claim 21 and is rejected for the same reason set forth in the rejection of claim 21 above.

As per claim 33, the rejection of claim 31 is incorporated and further claim 33 is a system claim corresponds to method claim 24 and is rejected for the same reason set forth in the rejection of claim 24 above.

As per claim 34, the rejection of claim 31 is incorporated and further claim 34 is a system claim corresponds to method claim 25 and is rejected for the same reason set forth in the rejection of claim 25 above.

As per claim 35, the rejection of claim 31 is incorporated and further claim 35 is a system claim corresponds to method claim 26 and is rejected for the same reason set forth in the rejection of claim 26 above.

As per claim 36, the rejection of claim 31 is incorporated and further claim 36 is a system claim corresponds to method claim 27 and is rejected for the same reason set forth in the rejection of claim 27 above.

3. Claims 22, 23, 32 and 38 are rejected under 35 USC 103 (a) for being unpatentable over Ueshima (US Patent No. 6,731,731) in view of Yu et al (US Patent

No. 6,067,621) in view of Tabuki (US Patent No. 5,841,970) and in view of Le et al (US Pub. No. 2003/0105962) and further in view of Brown et al (US Pub No. 2002/0169988).

As per claim 22, the rejection of claim 21 is incorporated and Brown teaches:  
establishing and publishing the authentication authority Web services to Web service industry's registries by the authentication authority [*paragraph 0025*, Fig. 1 "Service providers 11 host a network accessible software module. A service provider defines a service description for a Web service and publishes it to a service registry 13"].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Brown with Ueshima, Yu, Tabuki and Le, since one would have been motivated to use Web services because Web services offers the dual promise of simplicity and pervasiveness. Web services are based on the extensible Markup Language (XML) standard data format and data exchange mechanisms, which provide both flexibility and platform independence [*Brown, page 1 paragraph 0002, 0006*].

As per claim 23, the rejection of claim 22 is incorporated and further Brown teaches:  
using Web Services Description Language (WSDL) to publish said authentication authority Web services, and use Universal Description, Discovery and Integration (UDDI) standard to discover said authentication authority Web services published by other authorities [*page 3 paragraph 0032, 0034* "The logical interface and the service implementation are described by the Web Services Description Language (WSDL).]



WSDL is an XML vocabulary used to automate the details involved in communicating between Web services applications. Referring back to FIG. 1, the service can be publicized by being registered in a standard-format web registry 13. This registry makes it possible for other people or applications to find and use the service. For example, one can publish descriptive information, such as taxonomy, ownership, business name, business type and so on, via a registry that adheres to the Uniform Description, Discovery and Integration (UDDI) specification or into some other XML registry"].

As per claim 32, the rejection of claim 31 is incorporated and further claim 32 is a system claim corresponds to method claim 22 and is rejected for the same reason set forth in the rejection of claim 22 above.

As per claim 38, the rejection of claim 31 is incorporated and Brown teaches:

the gate way authority, authentication authority means, said authentication handler means, and the authentication client means are arranged to use Simple Object Access Protocol (SOAP) to communicate, and use Hypertext Transport Protocol (HTTP) packets to transmit data over Secure Socket Layer (SSL) [page 3 paragraph 0043 "The SOAP security extension included with WebSphere Application Server 4.0 is intended to be a security architecture based on the SOAP Security specification, and on widely-accepted security technologies such as secure socket layer (SSL). When using HTTP as the transport mechanism, there are different ways to combine HTTP basic

Art Unit: 2135

authentication, SSL, and SOAP signatures to handle varying needs of security and authentication"].

4. Claim 28 is rejected under 35 USC 103 (a) for being unpatentable over Ueshima (US Patent No. 6,731,731) in view of Yu et al (US Patent No. 6,067,621) in view of Tabuki (US Patent No. 5,841,970) and in view of Le et al (US Pub. No. 2003/0105962) and Ha et al (US Pub. 2003/0152254).

As per claim 28, the rejection of claim 26 is incorporated and Ha teaches:

the user private identity comprises the user's biometric identity and other shared secret information which doesn't have risk of being exposed over the Internet [Fig. 2A, 2C, paragraph 0030, 0015].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Ha with Ueshima, Yu, Tabuki and Le, since one would have been motivated to provide improved user authentication/verification system.

5. Claims 29, 30, 37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueshima (US Patent No. 6,731,731) in view of Yu et al (US Patent No. 6,067,621) in view of Tabuki (US Patent No. 5,841,970) d in view of Le et al (US Pub. No. 2003/0105962) and in view of Weiss (US Patent No. 5,657,388).

As per claim 29, the rejection of claim 21 is incorporated and Ueshima teaches:

the authentication client device comprising the use of portable, hand-held devices [col.4 lines 1-4].

Weiss teaches the portable device (the authentication client device) to generate on-time and non-predictable identity codes locally and independently [Fig. 1, 2].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Weiss with Ueshima, Yu, Tabuki and Le, since one would have been motivated to control access to resources and improve security using the non-predictable one-time code [Weiss, col. 2 lines 36-39, col. 1 lines 15-17].

As per claim 30, the rejection of claim 21 is incorporated and Tabuki teaches:

the method can be used as an ID verification method for any business entity to verify the user identity over a channel selected from the group consisting of the Internet, phone and other communication means [col. 4 lines 44-47].

Weiss teaches verifying the user identity using one-time and non-predictable identity codes over a channel selected from the consisting of the Internet, phone and other communication means [Fig. 1, 2].

As per claim 37, the rejection of claim 31 is incorporated and further claim 37 is a system claim corresponds to method claim 29 and is rejected for the same reason set forth in the rejection of claim 29 above.

As per claim 39, the rejection of claim 31 is incorporated and further claim 39 is a system claim corresponds to method claim 30 and is rejected for the same reason set forth in the rejection of claim 30 above.

### **Response to Argument**

6. Applicant's arguments filed December 08, 2006 have been fully considered but they are not persuasive.

Regarding to the applicant's argument to claim 21, Examiner disagrees with applicant, since Ueshima teaches the portable mobile communication terminal generates one-time password and the authentication system unit provides the authentication based on the on-time password [col. 12 lines 42-44, col. 15 lines 17-21, 31-36 Fig. 1]. Further, Yu teaches the terminal generates the one-time password based on the random number and the secret information locally as shown in Fig 1, 2 [col. 3 lines 24-28]. Further, Yu teaches conducting synchronization between the authentication authority and the portable terminal [col. 5, lines 14-17 Fig. 1, col. 8 lines 32-35]. Therefore, the combination of Ueshima and Yu teaches the claim limitation "generating the one-time identity code from the authentication client device locally and independent". Applicant mentions that the applicants' synchronization is completely random. However, the limitation presented in the remark is not expressively stated in the claimed language. The Applicant is reminded that presented arguments in the remark is not considered unless stated clearly in the claim language. Further, applicant

argued that the Ueshima does not have any teaching about Web services as taught by Brown (2004/0199636), Examiner disagrees with the applicant, since the term "Web services" is broad and doesn't expressively specify in the claim language. Based on the claim limitation presented in claim 21, Ueshima teaches the authentication process that provides the service to the user using the Web server over the Internet and therefore, it is a reasonable interpretation of the term "Web Services".

The Applicant is reminded that additional modification to clarify the claimed language is necessary for further consideration and distinction from the prior arts.

Regarding the applicant's argument, "Even if the combination (Ueshima, Yu, Tabuki and Le) could be combined, it is inherent that by combining a large number (over three) references of prior art is evidence of unobviousness. In response to applicant's argument, reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

Regarding to the applicant's argument to claim 24, Examiner disagrees with applicant, since Le teaches a plurality of authentication centers connected to the network. When an authentication request is generated by the mobile station, the request is routed to the proxy at which a standard-protocol message is generated and communicated to the core network. Fields contained in the standard-protocol message identify the authentication center by its identity to permit routine of an authentication

Art Unit: 2135

request. In this case, the proxy forwards the authentication request to appropriate authentication center. Therefore, the combination teaches the claim limitation.

Regarding to the applicant's argument to claim 25, Examiner disagrees with applicant, since Yu teaches generating the one-time password based on the random number and the secret information. The terminal reads the secret key of the IC card and the random number of the random number memory and generates a cipher using a symmetric key cipher algorithm, a has function portion for converting the cipher generated in the symmetric key cipher portion, using one way has function, to prevent an inverse trace of the secret key [col. 4 lines 7-14] and therefore it is not predictable.

Regarding to the applicant's argument to claim 26, that the applicants' invention uses a *Diffie-Hellman* type of algorithms. The Applicant is reminded that presented arguments in the remark is not considered unless stated expressively in the claim language.

Regarding to the applicant's argument to claim 27, that Yu's system does not generate a confirmation code *to alert the user about the success or failure of the synchronization*. The Applicant is reminded that presented arguments in the remark is not considered unless stated expressively in the claim language.

Applicant's arguments with respect to claims 29, 30, 37 and 39 have been considered but are moot in view of the new ground(s) of rejection. See rejection above.

Regarding the applicant's argument to claim 22, "even if the combination (Ueshima, Yu, Tabuki, Le and Brown) can produce a workable solution to meet the requirement as described by claims 21 and 22, the combination of a large number (over three) references of prior art is evidence of unobviousness. In response to applicant's argument, reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

Regarding the applicant's argument to claim 23 and 38, Examiner maintains that the combination is sufficient, since it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Brown with Ueshima, Yu, Tabuki and Le, since one would have been motivated to use Web services because Web services offers the dual promise of simplicity and pervasiveness. Web services are based on the extensible Markup Language (XML) standard data format and data exchange mechanisms, which provide both flexibility and platform independence [Brown, page 1 paragraph 0002, 0006] and it teaches the claim limitation as above.

Regarding to the applicant's argument to claim 25, Examiner disagrees with applicant and maintains that Ha teaches the amended claim limitation as above, since

Ha discloses that the authenticating server deletes the once-used OTT key so that another random OTT key can be used for a next authentication. Therefore, even if the OTT key is exposed in the course of authentication, false authentication s through hacking can be prevented because a newly renewed OTT key is used for the next authentication. Therefore, the combination teaches the claim limitation.

The Applicant is reminded that additional modification to clarify the claimed language is necessary for further consideration and distinction from the prior arts.

### Conclusion

7. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nirav Patel whose telephone number is 571-

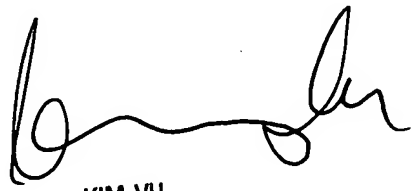


Art Unit: 2135

272-5936. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax and phone numbers for the organization where this application or proceeding is assigned is 571-273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

*NBP*

7/18/07



KIM VU  
SUPERVISORY PATENT EXAMINER  
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